Pathogenicity of three genetically diverse strains of PRRSV Type 1 in specific pathogen free pigs - DTU Orbit (01/03/2019)

Pathogenicity of three genetically diverse strains of PRRSV Type 1 in specific pathogen free pigs

Studies from Eastern European countries proved that porcine reproductive and respiratory syndrome virus Type 1 (PRRSV-1) harbours high genetic diversity and that genetically divergent subtypes 2-4 circulate in this area. In the present study, we compared the pathogenicity of two different PRRSV-1 subtype 2 strains and a strain representing PRRSV-1 subtype 1. Four groups of 8-week-old specific pathogen free pigs were either infected with subtype 2 strain ILI6, subtype 2 strain or BOR59, subtype 1 strain 18794, or mock inoculated. The most pronounced clinical signs were observed in pigs infected with BOR59. Pigs from both subtype 2 strain infected groups exhibited significantly elevated mean body temperatures on DPI 2 compared to the other two groups, the difference remaining significant up to DPI 13 for the BOR59 group, only. The pigs in the latter group also displayed significantly highest levels of early viremia together with the most rapid APP response. Overall, the results indicated that BOR59 strain can be considered a highly pathogenic strain, similarly to subtype 3 strains Lena and SU1-bel, while the virulence of the other subtype 2 strain ILI6 was intermediate between BOR59 and subtype 1 strain.

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